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Air Quality Management District
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April 29, 2008

Mr. Gerardo C. Rios
U.S. EPA – Region IX
Mail Stop A-5-2
75 Hawthorne Street
San Francisco, CA 94105

Subject: Final Title V Permit for the Air Liquide El Segundo Hydrogen Plant (ID 148236)

Dear Mr. Rios: Gerardo

Thank you for your comments of December 19, 2007 on the proposed Title V permit for this facility. Our response to your comments is attached. Based on your comments, we have made some changes to the proposed permit and statement of basis. These changes are discussed in the attached response. The final Title V permit, which is being issued with an effective date of May 9, 2008, will be transmitted to you via electronic submittal under a separate cover.

Questions on the subject permit should be directed to Robert Sanford, Air Quality Engineer, at (909) 396-2660/ bsanford@aqmd.gov.

Sincerely,

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering and Compliance

MN:JC:RS
Attachments

cc: Title V Application File
Jay Chen

AQMD RESPONSE TO EPA COMMENTS

AIR LIQUIDE HYDROGEN PLANT TITLE V PERMIT

APRIL 29, 2008

1. Applicability Determinations in the Statement of Basis

EPA Comment: 40 C.F.R. § 70.7(a)(5) requires that a title V permitting authority provide EPA with a "statement that sets forth the legal and factual basis for the draft permit conditions." In providing guidance to permitting authorities on what constitutes an adequate Statement of Basis over the years, EPA has stated that among other things, a Statement of Basis should include federal regulatory applicability determinations, including exemptions. For a review of Statement of Basis requirements, please refer to EPA 's August I, 2005 comment letter on the proposed Exxon Mobil permit.

Rather than providing applicability determinations in the Statement of Basis for the Air Liquide title V permit, SCAQMD refers the reviewer generically to past engineering evaluations for the hydrogen plant. While we understand the desire to streamline the permits and Statement of Basis, there are several problems with this approach, as we indicated during our previous review of the proposed title V permit for Exxon Mobil. . First, past engineering evaluations are not submitted with the proposed permit package, and thus are not readily available to the public or to EPA . The applicability determinations provide crucial information related to the review of title V permits. In this case, EPA did not receive engineering evaluations until December 13, three weeks into our review period.

Second, past engineering evaluations may not address recently promulgated federal standards, for instance MACT subpart UUU for petroleum refineries, nor would they address revisions to existing standards, for instance the soon-to-be-revised NSPS 1. They also would not deal with recent court-decisions potentially affecting the source, such as court-ordered vacatures of federal standards.

Finally, the title V permit is intended to provide a comprehensive look at all of the Clean Air Act requirements that may apply to a source, thus, it goes against the intent of title V to have applicability determinations for separate pieces of equipment scattered throughout old construction permits rather than cohesively analyzed and summarized in a Statement of Basis for the title V permit. Neither EPA nor the public should have to sort through hundreds of pages of old engineering evaluations to understand the rationale behind what is and is not included in the title V permit as applicable requirements.

The Statement of Basis must address all potentially applicable federal requirements. Past applicability determinations from old engineering evaluations should be gathered and discussed in the title V Statement of Basis. The determinations should be up-todate and holistic, rather than done in the piece-meal fashion that is necessary when doing

determinations in the context of issuing construction permits for individual pieces of equipment. At a minimum, please include all federal requirements that might apply to equipment at the facility being permitted, in this case, the units and components that make up the hydrogen plant; indicate which pieces of equipment are subject to each standard; and explain in detail any determinations that a specific requirement does not apply to a given piece of equipment.

For the purposes of the comments below, EPA has relied on the engineering evaluations provided on December 12 and 13, 2007. For any future permit proposed by SCAQMD, lack of adequate applicability determinations in the actual text of the title V Statement of Basis will be considered grounds for an objection. Further, in the future, EPA will not start its 45-day review clock until all supporting documents have been received, including engineering evaluations cited in the Statement of Basis, consistent with our agreement with the title V subcommittee, as set forth in a letter to Mr. David Dixon, dated February 19, 1999 (attached for your reference, see points 1 and 3).

District Response: Applicability determinations for federal regulations have been added to the Statement of Basis.

2. Applicable requirements in summary table for Section H, pages 1-10

EPA Comment: The summary tables at the beginning of Sections D and H usually contain citations to the applicable NSPS and NESHAP standards. Although the permit includes some of these standards as applicable requirements (see for instance page 35), the summary table does not include these standards; the requirements should be added to this table for consistency and clarity.

District Response: The format of this permit follows the standard format for RECLAIM facilities. A table containing all applicable rule and regulations is contained in Section K of the permit.

3. NSPS Subpart A

EPA Comment: NSPS Subpart A applies "to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication..." The proposed title V permit for Air Liquide includes NSPS subparts GGG and J as applicable requirements but excludes NSPS subpart A. Because the Air Liquide hydrogen plant contains affected facilities as that term is defined in NSPS J and GGG, subpart A should be included in the permit as an applicable requirement.

District Response: We agree that Air Liquide is subject to NSPS Subpart A. The following facility-wide condition has been added to the TV permit: *Condition F52.1 – The facility is subject to the applicable requirements of the following Rules or Regulation(s): 40CFR60, Subpart A.*

4. NSPS Subpart J - Petroleum Refineries

EPA Comment: Although NSPS subpart J is included as an applicable requirement for the flare in condition H23 .5, there are no specific requirements in the permit for the flare pursuant to NSPS Subpart J. It appears, but is not entirely clear, that the ground flare at the hydrogen plant is to be used solely for emergencies, startups and shutdowns. For instance, Condition S15.1 seems to authorize routine use of the flare:

All vent gases under normal operating conditions shall be directed to Chevron vapor recovery system and/or flare system.

Please address the intended use of the flare in the Statement of Basis, indicate how SCAQMD intends to regulate this flare pursuant to NSPS Subpart J, and add specific applicable emission limits

District Response: The ground flare was specifically designed and installed to control carbon monoxide (CO) emissions from the reformer syngas and PSA offgas during startup, shutdown and emergency/upset conditions. Venting to the ground flare is covered by device conditions E336.2 and E336.3, which permit venting of syngas and PSA offgas only during startup, shutdown or emergency/upset conditions only. These gases qualify for the exemption from the fuel gas H2S limit at §60.104(a)(1) since they meet the definition of "process upset gas". Therefore monitoring of these streams is not required under this subpart.

Pressure relief devices in the hydrogen plant vent to the Isomax Relief Gas Recovery Systems (Process 20, Systems 4, 28, 29, & 30) and/or the Delayed Coking Flare (Process 20, System 12)/Isomax Flare (Process 20, System 31), which are all located in the Chevron Refinery. This normal venting is permitted under system condition S15.1 in the Air Liquide Permit. During normal operation, any vent gases are recovered in the Isomax Relief Gas Recovery Systems. The only time that these normal vent gases will potentially be vented to the flares is when the emergency venting to the vapor recovery systems from the Chevron Refinery exceeds the capacity of the recovery systems.

To clarify that this venting is to the Chevron VRS and/or Chevron flare, system condition S15.1 will be modified as follows:

S15.1 The vent gases from all affected devices of this process/system shall be vented as follows:

All vent gases under normal operating conditions shall be directed to Chevron vapor recovery and/or Chevron flare system.

This process/system shall not be operated unless the Chevron vapor recovery system(s) or Chevron flare(s) is in full use and has a valid permit to receive vent gases from this system.

5. NSPS GGG -VOC Equipment Leaks at Refineries –

EPA Comment: NSPS *GGG* is included in the permit as an applicable requirement but it is unclear from the permit what applies to each piece of equipment. Please clearly indicate in the Statement of Basis which equipment is subject to the requirements of GGG, and include applicable emission limits and standards (including equipment leak thresholds) specifically in the permit.

District Response: NSPS GGG contains requirements for compressors and the "group of all equipment within a process unit". Equipment is defined as "each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service".

This subpart contains "standards" for the following affected sources:

- pumps in light liquid service (§60.482-2);
- compressors (§60.482-3);
- pressure relief devices in gas/vapor service (§60.482-4);
- sampling connection systems (§60.482-5);
- open-ended valves or lines (§60.482-6); and
- valves in gas/vapor service and in light liquid service (§60.482-7);
- pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors (§60.482-8).

The larger refineries in the District's jurisdiction have more than 200,000 emission sources that fit the definition of equipment under this regulation. Individual process units that are subject to this subpart could contain more than 10,000 emission sources. Each of these sources that are in VOC service (≥10% VOC) will be subject to one of the standards listed above unless the source qualifies for one of the exemptions in the subpart. We are not aware of an effective methodology for specifying the applicable "standards" or exemptions for each of these sources in the permit or statement of basis or to group these sources in a meaningful manner.

The statement of basis for the Air Liquide has been amended to include a general applicability discussion for NSPS GGG that the only components in "VOC service" are those handling refinery fuel gas. Others are not subject to Subpart GGG. No changes with regards to this subpart will be made to the Title V permit.

6. MACT DDDDD -Boilers and Process Heaters

EPA Comment: The engineering evaluation dated 8/9/06 indicated that the reformer process heater would be subject to MACT subpart DDDDD. This MACT standard was vacated by the DC Circuit Court on July 30,2007. Please be aware that SCAQMD may be required to do a case-by-case MACT determination for this unit in the near future , pursuant to Section 112j of the Clean Air Act. In a proposal for an information collection request (72 FR 62226) EPA stated that:

Owners and operators of affected sources must submit title V permit applications or amendments and comply with terms and conditions established under those permits or modifications related to case-by-case MACT The terms and conditions can include performance testing, monitoring, recordkeeping, and reporting.

More guidance from EPA will be forthcoming in 2008.

District Response: EPA's counsel regarding current and future guidance on case-by-case MACT for boilers and process heaters would be appreciated.

7. CAM

EPA Comment: The Statement of Basis indicates that Compliance Assurance Monitoring (CAM) does not apply to any of the permitted emission sources at the facility. As a matter of practice, a Statement of Basis should always give the precise reason why CAM does not apply. In this case the simplest explanation is that CAM will not be triggered until renewal. If CAM will not be triggered at renewal, it would be best to explain the reason why. Please amend the Statement of Basis appropriately.

District Response: The Reformer Heater/SCR is the only emission unit at the hydrogen plant that would become subject to CAM upon the facility's renewal of its initial Title V permit. This heater is subject to a federally-enforceable NOx limit of 5 ppmv per District Rule 2005 (NSR) and it utilizes an SCR to meet the emission limit. The pre-control NOx emissions for the heater exceed the NOx major source threshold of ten (10) tons per year, as specified at District Rule 3001(b). As you indicated in your comments, the heater/SCR will be subject to CAM upon renewal of the Title V permit.

A discussion of CAM applicability has been added to the Statement of Basis.

8. SIP Rule 1118 -Control of Emissions from Refinery Flares

EPA Comment: Please clarify in the Statement of Basis or permit how emissions from the hydrogen plant flare will be counted towards the S02 performance targets in Rule 1118 (do they count towards the total refinery cap or is the hydrogen plant flare subject to its own separate cap?). In addition, these performance targets should be included specifically in the permit per EPA's White Paper 2 which gives EPA's guidance on incorporation of standards by reference in title V permits. In general, EPA considers incorporation by reference to meet the requirements of title V so long as all emission limits and standards are included specifically in the permit and compliance obligations are clear and unambiguous.

District Response: District Rule 1118 is applicable to flares used at petroleum refineries, sulfur recovery plants and hydrogen production plants. A hydrogen plant is defined in the rule as a facility that produces hydrogen by steam hydrocarbon reforming, partial oxidation of hydrocarbons, or other processes, using refinery fuel gas, process gas or natural gas, and which supplies hydrogen for petroleum refinery operations. The Air Liquide plant is treated as a separate facility under this definition.

The SO_2 performance targets, which are specified at Rule 1118(d)(1), are applicable only to petroleum's refineries. Because Air Liquide Hydrogen Plant is not a petroleum refinery, it would not be subject to a performance cap.

9. SIP Rule 1173 -Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants

EPA Comment: The Statement of Basis and/or permit should indicate whether the hydrogen plant is in light liquid service or heavy liquid service for purposes of clarifying which requirements from Rule 1173 apply. This could be done either by indicating in the permit or Statement of Basis whether the components are in light or heavy service, or by specifying the specific leak standards that apply in the permit.

District Response: The standards in Rule 1173 are based on fugitive component type and service. Due to the large number of fugitive components in refineries, individual fugitive components cannot be described in the permit by type and service without degrading the clarity and effectiveness of the permit. Please see also District Response to EPA Comment #5 regarding NSPS GGG – VOC Equipment Leaks at Refineries.

10. SIP Rule 1109 - Emissions of Oxides of Nitrogen from Boilers and Process Heaters in Petroleum Refineries –

EPA Comment: It appears that SIP Rule 1109 should be included in the permit as an applicable requirement for the reformer process heater. Please add the requirements of 1109, specifically including the applicable emission limit, or explain in the Statement of Basis why the SIP rule is not applicable.

District Response: As specified at SCAQMD Rule 2001(j), facilities operating under the provisions of the RECLAIM program shall be required to comply concurrently with all provisions of District rules and regulations, except those provisions applicable to NOx and SOx emissions under the rules listed in Tables 1 and 2 of Rule 2001 for NOx and SOx RECLAIM Facilities respectively. Rule 1109 is included in Table 1 of Rule 2001.

11. SIP Rule 1123 -Refinery Process Turnarounds

EPA Comment: Please clarify in the Statement of Basis whether SIP Rule 1123 applies to vessels at the hydrogen plant and add the requirements of the rule to the permit if appropriate.

District Response: District Rule 1123 contains specific requirements for refinery process units and refinery operators. Since the subject hydrogen plant is not a petroleum refinery and is not owned or operated by Chevron, it is not considered to be a refinery process unit and is not subject to the requirements of this rule.